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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,929	12/16/2003	Shinichi Kawamura	246510US0DIV	4254

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/735,929	Applicant(s) KAWAMURA ET AL.	
	Examiner Christopher RoDee	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-58 is/are pending in the application.
 4a) Of the above claim(s) 44-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 37-43 and 52-58 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 37-58 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/814,722.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/12/04 12/16/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 37-43 & 52-58, drawn to a photoconductor having a specific polymer containing the formula (1) as a structural unit in the photoconductive layer and an apparatus containing the photoconductor, classified in class 430, subclass 56.
- II. Claims 44-48, drawn to a photoconductor having a specific polymer in a protective layer of a photoconductive layer, classified in class 430, subclass 66.
- III. Claim 49-51, drawn to an imaging forming method, classified in class 430, subclass 126.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II and Invention III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case writing an electrostatic image on the surface of the photoconductor with an ionographic stylus, developing the image a toner, and fixing the toner image to the surface of the photoconductor. Further, with respect to group II, the process can use a materially different product such as a photoconductor having the polymer in the photoconductive layer, such as a charge generating layer.

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be

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separately usable. In the instant case, invention II has separate utility such as in a process where the protective layer is removable from the photoconductive layer after formation of the toner image, and the toner image is transported with the surface layer to another receiver where the toner image is fixed. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Vincent Shier on 12 July 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 37-43 and 52-58. Affirmation of this election must be made by applicant in replying to this Office action. Claims 44-51 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill in US Patent 3,703,372.

Merrill discloses an electrophotographic photoreceptor having an electroconductive support, such as aluminum-paper laminates, aluminum foil, zinc foil, metal plates, or vapor deposited metal layers (col. 16, l. 17-26), and a photoconductive layer containing a copolyester binder resin (col. 2, l. 40+) with an organic, inorganic, or organometallic photoconductive substance (col. 5, l. 60-72). The inorganic compounds such as titanium dioxide appear to meet the requirements of an inorganic filler because titanium dioxide is typically particulate. Useful copolyesters have the formula B, C, E, or F (note the apparent typographical error in formula E: "H" should be "E"). "D" and "E" in the formula include alkyl groups having up to 8 carbon atoms (col. 3, l. 18). The substituting groups on the rings can be hydrogen (see col. 3, l. 57 and formula E). The unit of the copolyester containing the "D" and "E" units is produced from a bisphenol monomer as seen in Table 3. The additional compounds in the layer, such as the sensitizer (col. 15, l. 11), also meet the requirements of a filler because such a compound takes up some space in the photoconductive layer.

The reference does not disclose an alkyl chain having nine carbon atoms in the bisphenol group, but the reference suggests eight carbon atoms in the alkyl chain. The person of ordinary skill would expect similar results from alkyl chains differing in only one carbon chain in length and thus would have found such a modification obvious. It appears that the binder of Merrill with a nonyl group in the polyester's bisphenol would have the same or similar results when functioning as a binder resin as the polyester would still provide the "binding" function. Compounds that are homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by $-CH_2-$ groups) are generally of sufficiently close structural

similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 195 USPQ 426 (CCPA 1977). See also *In re May*, 197 USPQ 601 (CCPA 1978).

Claims 38 and 52-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill in US Patent 3,703,372 as applied to claims 37, 39, and 40 above, and further in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162 & 427-428.

The Merrill document does not disclose the use of a charge transport material with the photoconductor (i.e., charge generation material) and does not disclose the specifics of the apparatus or process cartridge.

Diamond states that formation of single layer photoconductors, as in Merrill, commonly include a charge transport compound in order to move the charge from the source of charge generation to the respective surface of the photoconductor (pp. 427-428). Diamond also discloses the typical components and processes present in electrophotographic apparatuses including charging, exposing, developing, transferring, fixing, and cleaning (p. 160).

The Examiner also takes Official Notice, as was done in the Office actions of the parent application, that the structural limitations of the apparatus and process cartridge are well known in the electrophotographic arts. These well known devices contain a photoconductor to permit imaging in both home and office settings (such as in photocopiers and laser jet printer cartridges). Applicants did not challenge the taking of Official Notice in the parent application, and thus it is maintained here.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the photoconductor of Merrill in these well known process cartridge or electrophotographic apparatus because this would permit the artisan to reproduce copies in an expedited manner. Additionally, the artisan would have found it obvious to add a charge

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transport compound to the single photoconductive layer of Merrill in order to ensure movement of the charge from the site of generation to the element surface. This would permit the discharging of the element in an imagewise manner and produce a developable image.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 37-43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,548,216.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed dual layer photoconductive layer anticipates (i.e., discloses a species within) the scope of the pending claims. Further, the claim to the dual layer structure would suggest a photoconductive layer to the skilled artisan because the charge generation layer and charge transport layer combination are a photoconductive layer in function.

Claims 52-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,548,216 in view of the Official Notice taken above and in the parent application. In the Official Notice the

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Examiner stated that the structural limitations of the apparatus and process cartridge are well known in the electrophotographic arts. No challenge has been made to this Official Notice.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the photoconductor of the copending claims in the well known process cartridge or electrophotographic apparatus because this would permit the artisan to reproduce copies in an expedited manner.

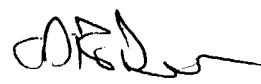
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
14 July 2004


CHRISTOPHER RODEE
PRIMARY EXAMINER